



Guidelines for Author Preparation of NASA Reports

*NASA Langley Research Center
Hampton, Virginia 23681-2199*



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Introduction

Contacts for this section:

<u>FrameMaker</u> : Peggy Overbey	<i>p.s.overbey@larc.nasa.gov</i> (757) 864-2514
<u>Microsoft Word</u> : Harriet Machie	<i>h.b.machie@larc.nasa.gov</i> (757) 864-2512
<u>Editorial Issues</u> : Gail McQuigg	<i>g.s.mcquigg@larc.nasa.gov</i> (757) 864-8554
<u>Graphics</u> : Dee Bullock	<i>l.d.bullock@larc.nasa.gov</i> (757) 864-2346
<u>Reference Citations</u> : Cathy Everett	<i>c.w.everett@larc.nasa.gov</i> (757) 864-8322

Langley technical reports have typically undergone substantive editing and professional formatting as part of the document preparation process. Because staffing resources have declined and desktop publishing software has become easier to use, authors are now responsible for producing technical reports. However, authors may request editing or formatting services from the Data Analysis & Imaging Branch (DAIB). In addition, the Technical Editing Committee (TEC) may require that a Technical Publication (TP) receive editing or formatting services from DAIB.

The guidelines presented herein are intended to facilitate the production of coherent, professional-looking technical reports. They are equally useful for authors who intend to use the technical editing or formatting services of the DAIB. Taking advantage of the following guidelines can increase the speed of report production while maintaining the quality of reports. However, if editing or formatting services will be requested for a technical report, please submit the report in a single-column, double-spaced format with tables and figures at the back of the report.

Guidelines for formatting through the use of predeveloped templates are included for FrameMaker and Microsoft Word software packages. Although information is presented for Microsoft Word word processing software, this software was not designed for multiple step desktop publishing of documents that include complex mathematical equations and symbols and integrated figures. Therefore, reports created with this package may require additional steps as the report progresses through document production.

The following information outlines the minimum quality standards acceptable for Langley technical reports, defines who is responsible for ensuring these standards are met, and offers guidance for specific situations to achieve compliance with the standards. The formatting and graphics information is based on experience in successfully creating electronic documents for printing and electronic dissemination. If you are using applications that are not discussed, you may have to experiment with file formats to create a document that can be successfully printed and also posted to the Langley Technical Report Server (LTRS). If you need additional guidance about or are having trouble using the FrameMaker templates, contact Peggy Overbey, or contact Harriet Machie if you need assistance with the Microsoft Word templates. For questions about stylistic issues or editorial concerns contact Gail McQuigg. For more information about figure file preparation contact Dee Bullock. For questions about references contact Cathy Everett.

NASA STI Report Series

A brief description of the report types included in the NASA Scientific and Technical Information (STI) report series is shown below. See the "STI Report Series Table" for a list of the types of NASA STI publications, the related STI report series, and the suggested distribution. Publications in the STI report series may receive either standard or nonstandard distribution as deemed appropriate by the author. More information on the STI report series is available in NPG 2200.2A, Guidelines for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information.

Technical Publication (TP)

This series comprises reports of completed research or a major significant phase of research that presents the results of NASA programs and includes extensive data or theoretical analysis. Included in this series are compilations of significant scientific and technical data and information deemed to be of continuing reference value. TP's are the NASA counterpart to peer-reviewed formal professional papers but have less stringent limitations on manuscript length and extent of graphic presentations.

Technical Memorandum (TM)

This series records scientific and technical findings that are preliminary or of specialized interest, e.g., quick release reports, working papers, and bibliographies that contain minimal annotation. TM's do not contain extensive analysis.

Contractor Report (CR)

This series comprises reports of scientific and technical findings by NASA-sponsored contractors and grantees.

Conference Publication (CP)

This series contains collected papers from scientific and technical conferences, symposia, seminars, or other meetings sponsored or co-sponsored by NASA.

Special Publication (SP)

This series records scientific, technical, or historical information from NASA programs, projects, and missions, often concerned with subjects having substantial public interest.

Technical Translation (TT)

This series consists of English-language translations of foreign scientific and technical material pertinent to NASA's mission.

Table A3-1. Types of NASA Publications, Related STI Report Series, and Suggested Distribution (See also next page.)

(From NPG 2200.2A, "Guidelines for Documentation, Approval, and Dissimination of NASA Scientific and Technical Information")

Manuscript Contents	Appropriate Series	Appropriate Initial Distribution (see also paragraph 5.6)
Article for a professional journal	None required; TP for expanded treatment and TM for preprint	Two copies to CASI (fifteen if the article contains color or is a page size other than 8-1/2 by 11 inches)
Article for a technical magazine	None required; TP for expanded treatment and TM for preprint	Two copies to CASI (fifteen if the article contains color or is a page size other than 8-1/2 by 11 inches)
Atlas of scientific imagery	TP or SP	Standard
Bibliography:		
Continuing	SP	Standard
Extensive annotation	TP	Standard
Minimal annotation	TM	Standard or Non-Standard
Contractor or grantee results and findings	CR, TP, or SP	Standard or Non-Standard
Critical review of the literature	TP	Standard
Critical tables	TP	Standard
Data compilation:		
Extensive use	TP	Standard
Limited use	TM	Non-Standard
Design standards	TP	Standard
Dissertation or thesis by employee, relating to work	TM	Standard or Non-Standard
Engineering report	TP	Standard
Handbook	TP	Standard
History	SP	Standard
Letter (e.g., for a professional journal)	None required	Two copies to CASI (fifteen if the article contains color or is a page size other than 8-1/2 by 11 inches)
Limited distribution report	TP or TM	Standard or Non-Standard
Literature survey, review	TP	Standard
Management Report	SP (6000 series)	Non-Standard

Manuscript Contents	Appropriate Series	Appropriate Initial Distribution (see also paragraph 5.6)
Manual	TP or TM	Standard or Non-Standard
Monograph	TP	Standard
Preliminary results report	TM	Non-Standard
Preprint of paper for a professional meeting	TM	Standard or Non-Standard
Proceedings of a workshop, conference, seminar, etc.	CP	Standard
Program description or summary	SP	Standard
Report to another agency	TM	Standard or Non-Standard
Research report	TP	Standard
Review paper	TP	Standard
Security-classified report	TP or TM	Two copies of the unclassified RDP to CASI
Sponsored research report: NASA sponsor	CR	Standard or Non-Standard
Non-NASA sponsor	TM	Standard or Non-Standard
State-of-the-art review	TP	Standard
Technical report—complete, comprehensive	TP	Standard
Textbook, scientific or technical	TP	Standard
Translation	TT	Two copies to CASI (fifteen if the article contains color or is a page size other than 8-1/2 by 11 inches)
Working paper (external circulation)	TM	Non-Standard

Responsibilities of Author

The author is ultimately responsible for ensuring that the finished report complies with all the standards presented in these guidelines. The compliance of Technical Publications (TP's) with these standards will be ensured through the oversight of the Technical Editing Committee (TEC).

Any report that the author sends to the Research Information Management (RIM) Office must comply with the following minimum specifications. For further information about creating PostScript files with FrameMaker or Microsoft Word software, click on the appropriate link. See "Guidelines for Electronic Graphics" for more information about creating electronic files for figures. The report will be returned to the author if any of these specifications are not met.

- The report must be complete and printable on the DocuTech system (or with the alternative method selected by the printing specialist).
- The electronic copy must be in the form of PostScript files that can be directly sent to and printed on the DocuTech system.
- These files must also be capable of being posted to LTRS without modification by RIM.
- All figures and photographs must be properly sized, composed, and arranged to produce readable, economical printed copies of the report.
- Pages must be correctly numbered.

Responsibilities of Technical Editing Committee

The Technical Editing Committee (TEC) is responsible for ensuring that a Technical Publication (TP) produced at Langley meets technical and editorial standards and is thus suitable for publication by NASA. While reviewing the report, the TEC should keep in mind that they are conducting the final critical evaluation of the technical content and the quality of information. It is therefore critical that the TEC be thorough and conscientious in its evaluation. See "Checklist for Technical Editing Committee." The TEC shall ensure that a Technical Publication complies with the following minimum standards.

1. The report is written clearly and will be comprehensible to the intended audience and the information presented meets the technical standards of the discipline.
2. The tense usage is logical and consistent and the report is well organized, with headings that conform to the proper style.
3. All numbered or lettered items (<tables, figures, equations, references, and appendixes) are introduced in the text in correct order. Ensure that the numbering is sequential and that any cross-references are correct.
4. Any reference to an item within the report is accurate (e.g., if the text refers to figure 1, ensure that figure 1 is the appropriate figure).
5. There are no incorrectly or inconsistently spelled words and no obvious grammar or punctuation errors.
6. There are no endorsements of or improper references to commercial or trademarked products. Improper references include inaccurately named products, product name used as noun instead of as

adjective, or commercial product named where generic name is available.

7. There are no statements that will embarrass NASA or the Federal Government.
8. Any conclusions presented are supported by the text.
9. References cited are available and the reference list contains sufficient information to allow the reader to obtain the correct document. For references cited by author and date, ensure that text citations are accurate and sufficient to identify the correct reference.
10. Graphic and tabular data are clearly presented; data presented in more than one location in the report are consistent.
11. Report complies with current policies and procedures for restricted, proprietary, or classified information. In addition, no restricted, proprietary, or classified information is included in a report without appropriate restrictions; that is, if an otherwise unclassified report incorporates classified data from another report, then the report must be given the same classification as the referenced report.

If the TEC determines that the report is technically sound but contains more grammar, clarity, or formatting errors than can be reasonably corrected by the TEC, then the report should be forwarded to the Data Analysis & Imaging Branch, ISSD for professional editing and formatting.

Checklist for Technical Editing Committee

- _____ Report is written clearly.
- _____ All numbered or lettered items (figures, tables, equations, references, and appendixes) are introduced in correct order.
- _____ All numbered or lettered items are numbered or lettered correctly and referred to accurately.
- _____ No incorrectly or inconsistently spelled words; no obvious grammar or punctuation errors.
- _____ No endorsements of or improper references to commercial or trademarked products.
- _____ No statements that will embarrass NASA or the Federal Government.
- _____ Any conclusions presented are supported by the text.

- _____ References cited are available with sufficient information to identify correct document.
- _____ Graphic and tabular data are clearly presented and are consistent.
- _____ Report complies with policies for restricted, proprietary, or classified information.

Submittal of Reports

Contacts for this section:

Internal Tracking L-#:

Susan Stewart

*s.h.stewart@larc.nasa.gov
(757) 864-2518*

Harriet Machie

*h.b.machie@larc.nasa.gov
(757) 864-2512*

Cindy Sadler

*c.v.sadler@larc.nasa.gov
(757) 864-2517*

Editorial Issues: *Gail McQuigg*

*g.s.mcquigg@larc.nasa.gov
(757) 864-8554*

Reference Citations: *Cathy Everett*

*c.w.everett@larc.nasa.gov
(757) 864-8322*

At Langley, all reports for publication are processed through Research Information Management (RIM), Information Management Branch (IMB), Information Systems and Services Division (ISSD). NASA report series numbers are not issued until a report is ready for publication, however; an internal tracking or L-number is assigned during the initial stages of report production.

Additional information and internal tracking or L-numbers may be obtained by contacting Susan Stewart, Harriet Machie, or Cindy Sadler.

The NASA STI report series is comprised of the following publications (see "NASA STI Report Series" for more information):

- Technical Publication (TP)
- Technical Memorandum (TM)
- Contractor Report (CR)
- Conference Publication (CP)
- Special Publication (SP)
- Technical Translation (TT)

Technical Publication (TP) Submittal

Editing and formatting of TP's may be performed by the author. The Technical Editing Committee (TEC) determines whether the report meets technical and editorial standards. The Data Analysis and Imaging Branch (DAIB), Information Systems and Services Division (ISSD),

will perform editing or formatting at the request of either the author or the TEC.

The following are the steps for submitting a TP for publication:

- Prepare draft copy of report. See either "Preparing Reports With FrameMaker v5.0.1 Templates" or "Preparing Reports With Microsoft Word v6.0.1 Templates."
- Complete Langley Form 99 "Technical Publication Approval Form."
- Set up TEC and distribute copies of report to TEC members. Langley Form 51 "Technical Editing Committee Membership Selection Notice" may be used for selection of members from other divisions.
- Forward Form 99 and report to author's branch head.
- The TEC reviews the report. (See "Responsibilities of Technical Editing Committee" and "Checklist for Technical Editing Committee".)
- Revise report (See "Responsibilities of the Author".)
- Prepare cover, title page, and Report Documentation Page (RDP), Standard Form 298. Use Microsoft Word or FrameMaker templates and save all files.
- Update Form 99, if necessary, with TEC members, distribution, and electronic file information.
- Forward Form 99, cover, title page, RDP, and a one-sided paper copy of revised report in final format through approval routing on Form 99. (If editing and manuscript preparation are to be completed by DAIB forward a double-spaced, single-column paper copy of text with figures and tables at the back of the text. Integration of figures and tables can be done during manuscript preparation by DAIB.)
- If editing and formatting were completed by author, save electronic files for report, cover, title page, and RDP in PostScript format for printing and posting of publicly available reports on the Langley Technical Report Server (LTRS). (See "Creating a PostScript File to Submit the Document for Printing for FrameMaker", "Creating a PostScript File With Microsoft Word for Macintosh", or "Creating a PostScript File With Microsoft Word 97 for PC".)

When electronic files are needed, RIM will contact the author for the PostScript files of camera-ready reports and DAIB will contact the author for the electronic source files of rough draft reports. Note, electronic copy and paper copy must be exactly the same version of the report.

Technical Memorandum (TM) Submittal

The following are the steps for submitting a Technical Memorandum:

- Prepare single-sided camera-ready copy of report.
- Complete Langley Form 99 "Technical Publication Approval Form."
- Prepare cover, title page, and Report Documentation Page (RDP), Standard Form 298. See either "Preparing Reports With FrameMaker v5.0.1 Templates" or "Preparing Reports With Microsoft Word v6.0.1 Templates." Save all files.
- Forward Form 99, cover, title page, camera-ready copy of report, and RDP through approval routing on Form 99.
- Save electronic files of report, cover, title page, and RDP in PostScript format for printing and posting of publicly available reports on LTRS. (See "Creating a PostScript File to Submit the Document for Printing for FrameMaker", "Creating a PostScript File With Microsoft Word for Macintosh", or "Creating a PostScript File With Microsoft Word 97 for PC".)

RIM will contact the author for the PostScript files for the report, cover, title page, and RDP when needed. Note, electronic copy and paper copy must be exactly the same version of the report.

Contractor Report (CR) Submittal

The following are the steps for submitting a Contractor Report:

- Obtain single-sided camera-ready copy of revised report and a PostScript file, if available, from contractor.
- Complete Langley Form 99 "Technical Publication Approval Form."
- Prepare cover, title page, and Report Documentation Page (RDP), Standard Form 298. See either "Preparing Reports With FrameMaker v5.0.1 Templates" or "Preparing Reports With Microsoft Word v6.0.1 Templates." Save all files.
- Forward Form 99, cover, title page, camera-ready report, and RDP through approval routing on Form 99.
- If a PostScript file is available for report, save electronic source files for cover, title page, and RDP in PostScript format for printing and posting of publicly available reports on LTRS. (See "Creating a PostScript File to Submit the Document for Printing for FrameMaker", "Creating a PostScript File With Microsoft Word for Macintosh", or "Creating a PostScript File With Microsoft Word 97 for PC".)

RIM will contact the technical monitor for the PostScript files when needed. Note, electronic copy and paper copy must be exactly the same version of the report.

Conference Publication (CP) Submittal

Reports exceeding 600 pages must be divided into parts with each part containing the Preface or Foreword, Table of Contents, cover, title page, and RDP.

The following are the steps for submitting a Conference Publication:

- Prepare single-sided camera-ready copy of report. (Conference coordinators must perform or obtain any editing, correcting, compiling of papers, and page numbering.)
- Prepare Preface or Foreword and Table of Contents.
- Complete Langley Form 99 "Technical Publication Approval Form."
- Prepare cover, title page, and Report Documentation Page (RDP), Standard Form 298. See either "Preparing Reports With FrameMaker v5.0.1 Templates" or "Preparing Reports With Microsoft Word v6.0.1 Templates." Save all files.
- Forward Form 99, cover, title page, camera-ready report, and RDP through approval routing on Form 99.
- If report was compiled electronically, save files for report, cover, title page, and RDP in PostScript format. (See "Creating a PostScript File to Submit the Document for Printing for FrameMaker", "Creating a PostScript File With Microsoft Word for Macintosh", or "Creating a PostScript File With Microsoft Word 97 for PC".)

Special Publication (SP) and Technical Translation (TT)

Contact Gail McQuigg of the Data Analysis and Imaging Branch for information on preparation of these publications or Susan Stewart of the Information Management Branch for submittal information.

Stylistic Elements of Report

Contacts for this section:

Editorial Issues: Gail McQuigg *g.s.mcquigg@larc.nasa.gov*
(757) 864-8554

Reference Citations: Cathy Everett *c.w.everett@larc.nasa.gov*
(757) 864-8322

These sections describe stylistic elements of tables, figures, appendixes, equations, references, and copyrighted material. Following these guidelines will help to convey the information in a report concisely and consistently. If your paper receives professional editing and formatting services from the staff of the Data Analysis & Imaging Branch, following these guidelines will help to reduce the processing time. If you have questions or need more information contact Gail McQuigg.

Tables

Tables are numbered in order of their mention with Arabic numerals (table 1, table 2(a), or table 2(b)). Table titles should be brief and appear above the table. All major words of the title should be capitalized, such as in the following:

Table 1. Basic Model Geometry

Table 2. Average Atomic Number and Density of Materials

The following is the title for the second and succeeding pages of a multiple page table:

Table 1. Continued

The following is the title for the last page of a multiple page table:

Table 1. Concluded

Table subtitles, headnotes, boxheads, footnotes, and entries consisting of words, phrases, or sentences should not be bold face and are capitalized following sentence style. That is, the first letter of the first word is capitalized; however, they do not end with a period.

Figures

Figures are numbered in order of their mention (figure 1, figure 2, or figure 3(a)). Small figures (sketches) included in the text may be unnumbered. If necessary, sketches may be designated A, B, or C, in order of their appearance. If figures are grouped together and placed at the back of a report, more than one figure can be placed on a page. If more than one figure appears on a page, be sure to place figures so that the spacing between figures is even.

Figure captions should be very brief and follow sentence style, that is, the first letter of the first word is capitalized and the caption ends with a period, such as in the following:

Figure 1. Blocking arrangement and grid dimensions.

Figure 1. Three-view sketch of the research aircraft. Dimensions are in inches.

Figure 1. Computing scheme for algorithm.

The following is the caption for the second and succeeding pages of a multiple page figure:

Figure 1. Continued.

The following is the caption for the final page of a multiple page figure:

Figure 1. Concluded.

Information about creating electronic files for figures can be found at "Guidelines for Electronic Graphics."

Equations

Equations are numbered in parentheses as (1), (2), (3a), (3b) in the text and (A1), (A2), (B1a), (B1b) in appendixes, in order of appearance. The equation number appears to the right of the equation and is flush with the right margin. An equation is referred to in the plural if it has more than one part.

Appendixes

Appendixes are designated A, B, C in order of mention in the main text. A single appendix does not need a letter designation. Appendixes have titles which appear on the line following the heading "Appendix" as follows:

Appendix A

Determination of Chordwise Spacing of Holes

Appendix

Transformation Equations

Reference Citations

Publications referred to in NASA reports are listed in the "References" section, which is located immediately after the concluding section of the report or, if the report has appendixes, after the last appendix. References are numbered in the order of mention in the text, tables, and figures. If a bibliography is presented in addition to or in place of the reference section, the publications in it are not numbered, but are listed alphabetically according to author.

- Only documents that the author has actually seen may be referenced.
- When surveying the literature for source material, the author should check the availability of the material. Material that is not obtainable must NOT be referenced.
- Classified or restricted distribution documents, such as ITAR, or FEDD, may be referenced as background references. If data are taken from any restricted document, written permission to reference the document must be obtained from the office controlling the report. Proprietary documents may not be referenced unless absolutely necessary. If proprietary documents must be referenced written approval of the citation the way it is to be cited must be obtained from the company owning the proprietary data.
- Reference to unpublished work or information acquired through personal communication must be clearly identified as such and must not be represented as published information, even if publication is pending. This identification should be included in a parenthetical note in the text with an appropriate notation such as "unpublished," "to be published," or "personal communication." Under no circumstances should an author represent another's work as his or her own.

Correct citation of a reference is an important responsibility of the author. The final draft of the report should be carefully checked to make certain there are no errors in the reference list. Each reference should contain the following information in the order given:

1. Surname, first name or initials of all authors as given on the reference. If anonymous, the listing begins with the title.
2. Exact title as given.
3. Exact subtitle as given. If on separate line from main title, separate by a period.
4. Source information.
 - (a) For a book give volume number, edition, publisher, and place of publication if publisher is not well known.
 - (b) For a periodical give name of periodical, volume, number, month, year, and inclusive pages. If title of periodical has changed, give correct title for issue cited.

- (c) For reports from organizations (e.g., NASA, NSF) give organization report number and year. If the name of the organization is not part of the report number, the name of the organization follows the report number.
- 5. Date (use copyright date if no other date appears).
- 6. Page numbers (optional for book; inclusive page numbers required for periodical). Examples of typical reference forms follow:

Books

One edition

Johnson, Leonard G.: *The Statistical Treatment of Fatigue Experiments*. Elsevier Publ. Co., 1964.

Revised edition

Brewster, Ray Q.; and McEwen, W. E.: *Organic Chemistry*. Second ed., Prentice Hall, Inc., 1959.

One volume of series

Bowden, F. P.; and Tabor, D.: *The Friction and Lubrication of Solids*. Part II, Clarendon Press (London), 1964.

Foreign language book

Flügge, W.: *Statik und Dynamik der Schalen*. (Statics and Dynamics of Shells.) Julius Springer (Berlin), 1934.

Translation

Jost, Wilhelm (Huber O.Croft, transl.): *Explosion and Combustion Processes in Gases*. McGraw-Hill Book Co., Inc., 1945.

Edited book

Smithells, Colin J., ed.: *Metals Reference Book*. Vol. III, Fourth ed., Plenum Press, 1967.

Section of edited collection

Wiederhorn, S.: Effects of Environment on the Fracture of Glass. *Environment-Sensitive Mechanical Behavior*, A. R. C. Westwood and N. S. Stoloff, eds., Gordon & Breach Sci. Publ., Inc., 1966, pp. 293-317.

Section of book

Sasser, James H.: Photographic Summary of Apollo 11 Mission. *Apollo 11 Preliminary Science Report*, NASA SP-214, 1969, pp. 9-33.

Book compiled by staff

Battelle Memorial Institute: *Prevention of the Failure of Metals Under Repeated Stress*. John Wiley & Sons, Inc., 1941.

Book of anonymous authorship

SAE Handbook. Soc. Automat. Eng., Inc., 1949.

Periodicals

Foreign language

De Haller, P.: Das Verhalten von Tragflügelgittern in Axialverdichtern und in Windkanal (The Behaviour of Airfoil Grids in Axial Compressors and in a Wind Tunnel). *Brennstoff-Wärme-Kraft*, Bd. 5, Heft 10, Oct. 1953, pp. 333-336.

English language

Parker, R. J.; and Zaretsky, F. V.: Rolling Element Fatigue Lives of Through-Hardened Bearing Materials. *J. Lub. Tech.*, vol. 94, no. 2, 1972, pp. 165-173.

NASA and NACA Publications

Technical Report (NASA)

Miller, C. D.: *Simultaneous Correction of Velocity and Mass Bias in Photography of Meteors*. NASA TR R-280, 1968.

Technical Report (NACA)

Tucker, Warren A.: *A Method for the Design of Sweptback Wings Warped To Produce Specified Flight Characteristics at Supersonic Speeds*. NACA Rep. 1226, 1955. (Supersedes NACA RM L51508.)

Technical Note

Spalvins, Talivaldis; and Brainard, William A.: *Effect of Surface Topography on Structural Growth of Thick Sputtered Films*. NASA TN D-7577, 1974.

Technical Memorandum

Costakis, William G.: *Analog Computer Implementation of Four Instantaneous Distortion Indices*. NASA TM X-2993, 1974.

Contractor Report

Rohatgi, Upendra; and Reshotko, Eli: *Laminar Flow Between Stationary and Rotating Disks With Inflow*. NASA CR-2356, 1974.

Special Publication

Gunter, Edgar J., Jr.: *Dynamic Stability of Rotor-Bearing Systems*. NASA SP-113, 1966.

Conference Publication

McDougal, David S., ed.: *FIRE Cirrus Science Results 1993*. NASA CP-3238, 1993.

Article from Conference Publication

Martner, Brooks E.; and Kropfli, Robert A.: Observations of Multi-Layered Clouds Using K-Band Radar. *FIRE Cirrus Science Results 1993*, NASA CP-3238, 1993, pp. 75-82.

Thesis

Krebs, Charles V.: Determination of Stress Concentration Factors for Hyperbolically Notched Tension Members. M.S. Thesis, Univ. of Notre Dame, 1950.

Conference Proceedings

Edited conference proceedings

Clementel, E.; and Villi, C., eds.: *Conference on Direct Interactions and Nuclear Reaction Mechanisms*. Gordon & Breach Sci. Publ., Inc., 1963.

Paper from conference proceedings

Gilbert, William P.; and Gatlin, Donald H.: Review of the NASA High-Alpha Technology Program. *High-Angle-of-Attack Technology*, Volume I, Joseph R. Chambers, William P. Gilbert, and Luat T. Nguyen, eds., NASA CP-3149, Part I, 1992, pp. 23-59.

Patent

Endrey, Andrew Laszlo: Aromatic Polyimides From Meta-Phenylene Diamine and Para-Phenylene Diamine. U.S. Patent 3, 179, 633, Apr. 1965.

Restricted Distribution Publication

Stevens, J. R.: A New Lifting Surface Approach: The Design of Supersonic Wings. *Design Conference Proceedings-Technology for Supersonic Cruise Military Aircraft*, Volume I, AFFDL-TR-77-85-VOL I, U.S. Air Force, 1976. (Available from DTIC as AD B025 253L.)

For assistance with verifying, formatting, and preparing reference citations, please contact Cathy Everett.

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Producing an Electronic Document

Contacts for this section:

<u>Graphics:</u> Dee Bullock	<i>l.d.bullock@larc.nasa.gov (757) 864-2346</i>
<u>FrameMaker:</u> Peggy Overbey	<i>p.s.overbey@larc.nasa.gov (757) 864-2514</i>
<u>Microsoft Word:</u> Harriet Machie	<i>h.b.machie@larc.nasa.gov (757) 864-2512</i>

The following sections describe how to produce an electronic document. Following these guidelines will help your document to be produced efficiently.

Guidelines for Electronic Graphics

Electronic publishing software cannot recognize multiple-page graphics documents. Therefore, each page of graphics must have its own electronic file. For best printing and viewing quality of graphics, use no less than 0.5 line weights and no less than 30 percent black fill patterns. Use no less than 9 point Times, Helvetica, or Symbol fonts. Use of other fonts may result in PostScript file errors, printing problems, and make the document unreadable when it is placed on microfiche by CASI. When creating electronic images, use no less than 200 dots per inch (dpi).

Saving and Exporting Graphics Files

The following sections describe how to produce and export an electronic file in the format required for printing and electronic dissemination. Following these guidelines will help to reduce the processing time for your document.

Macintosh

Adobe Illustrator 3.2.3 and 5.0

Save file as Black & White Macintosh or Color Macintosh.

Adobe Illustrator 6.0

Save files as Illustrator EPS D 8 bit Macintosh D 6.0.

Adobe Photoshop (all versions)

Save files as PICT, TIFF, or EPS. (If using EPS, be sure to choose ASCII format and do not include halftone screen or transfer function.)

MacDraw Pro

Save file as EPSF or PICT.

Claris Draw

Save file as EPSF or PICT.

Canvas

Save file as EPSF or PICT.

Cricket Graph III

Save file as EPSF or PICT.

Cricket Draw III

Export file as EPSF or PICT.

KaleidaGraph

Export file as MacDraw PICT (High Resolution PICT).

ClarisCad

Save file as EPSF or PICT.

In some cases, graphics may be copied from the graphics application (MacDraw Pro, Claris Draw, Claris Cad, and sometimes Photoshop) and pasted into electronic publishing applications.

Unix

Adobe Illustrator

Save file as EPS D 8 bit.

Adobe Photoshop

Save files as PICT, TIFF, or, EPS. (If using EPS, be sure to choose ASCII format and do not include halftone screen or transfer function.)

TecPlot

Save files as EPS.

DAS

Print files to PostScript file, FTP to Macintosh computer as ASCII, convert file using Adobe Illustrator 6.0, save as "Illustrator EPS D 8 bit Macintosh D 6.0". (If document is on Unix, FTP to Unix as ASCII for inclusion in document.)

IslandDraw

Save file as EPSI.

DOS

Corel Draw

Export file as EPS. (Export text as curves. Export with no header.)

In some cases, graphics may be copied from Corel Draw and pasted into electronic publishing applications.

If you have questions about producing electronic graphics, please call Dee Bullock.

Preparing Reports With FrameMaker 5.0.1 Templates

Four FrameMaker templates are necessary to format a formal report: cover.fm for the cover or army_cvr.fm for the cover of an Army report; title.fm for the title page or army_ttl.fm for the title page of an Army report; 1col.fm for text in one column or 2col.fm for text in two columns; and rdp_vtc.fm for a Report Documentation Page for Army reports from the Vehicle Technology Center, rdp_jrp.fm for a Report Documentation Page for Army reports from the Joint Research Program Office, or rdp.fm for the Report Documentation Page for all other reports. Templates are also provided for a table of contents and pages that are oriented landscape (toc.fm and land.fm, respectively). These templates can be downloaded by clicking on the appropriate link. The template will download to the place on your computer where files are stored. Click for an explanation of the tags for the cover templates, title page templates, text templates, and Report Documentation Page templates. In addition, please be aware that

- FrameMaker will space appropriately between words and sentences.
- FrameMaker files that contain graphics files should be no longer than 50 pages.
- For a report with multiple files for text, tables, and figures the second and subsequent files must be numbered consecutively rather than each file beginning with page 1.

Cover Template

A cover page is required for all reports. The cover page contains the report number, title, authors, and date. To use the cover templates cover.fm or army_cvr.fm, place the cursor and type or move throughout the page with the arrow keys. **DO NOT** press return to move from one place to the next. Restriction notices have been set up as conditional text. Pull down the menu under Special and choose Conditional Text. Click on Show/Hide, double click on the required restriction notice to move it to the show box, and choose Set. Pull down the menu under Format, choose Paragraphs and then Designer for tags to format text for the cover template. To see an example of a formatted cover click [here](#).

Title Page Template

A title page is required for all reports. The title page contains the report number, title, authors, date, and the authors' affiliations. To use the title page templates title.fm or army_ttl.fm, place the cursor and type or move throughout the page with the arrow keys. DO NOT press return to move from one place to the next. Restriction notices and disclaimers have been set up as conditional text. Pull down the menu under Special and choose Conditional Text. Click on Show/Hide, double click on the required restriction notice or disclaimer to move it to the show box, and choose Set. Pull down the menu under Format, choose Paragraphs and then Designer for tags to format text for the title page template. To see an example of a formatted title page click [here](#).

Table of Contents Template

To use the table of contents template toc.fm, first generate a table of contents of the text file. Cut and paste the generated list into the table of contents template. Add tabs between the heading titles and the page numbers so that the page numbers align on the right margin. Tag the heading titles with the appropriate heading level tag. Pull down the menu under Format, choose Paragraphs and then Designer for tags to format text for the table of contents template. To see a sample of a formatted table of contents click [here](#).

One Column and Two Column Templates

To use the one column template 1col.fm or two column template 2col.fm, insert the cursor in the template and begin typing the document. Pull down the menu under Format, choose Paragraphs and then Designer for tags to format text for these templates. To see a sample of a formatted document choose one of the following:

- With tables and figures integrated within the text
- With tables and figures at the end of the report

Tables in FrameMaker Documents

Please note that no tags have been created for Table Designer because each table is usually unique. The style of the elements of a table is discussed in the section entitled "Tables". Some basic formatting rules to remember when creating tables are

- Use a line thickness of Thin for lines in and around tables.
- The title of a table cannot be wider than the table itself.
- No text within a table or its title is bold.
- Tables placed at the end of a two column document are done in 10.5 point font with 12 point leading (spacing).

- Tables placed at the end of a one column document are done in 11 point font with 13 point leading (spacing).
- Tables integrated within the text of either a one or two column document are done in 9 point font with 11 point leading (spacing).

Figures in FrameMaker Documents

Figures and captions are placed within a table format. This format maintains appropriate spacing between figures and captions, and ensures that figures and captions will flow together when changes are made in the text. Figure captions are typed one blank line after the figure and are centered within the width of the figure. The stylistic elements of figures and captions are discussed in the section entitled "Figures." FrameMaker can import figure files saved as PS, EPS, GIF, or TIFF files. When importing a GIF and TIFF files, the dpi at which the figure was scanned must be known. For information about saving electronic graphic files see "Guidelines for Electronic Graphics."

Figures After Text. Figures grouped together and placed at the end of a document are centered vertically and horizontally. More than one figure can be placed on a page; however, there must be an equal amount of white space between each figure. To place figures after the text of a document, anchor a table on a blank line tagged as HTMLSplit by pulling down the menu at Table and choosing Insert Table. Choose either 42pc Figure for those figures that span the entire page or 42pc Figure(Land) for those figures that need to be placed landscape. The stylistic elements of figures and captions are discussed in the section entitled "Figures."

- To use 42pc Figure:
 - Place cursor in the top box of the table, pull down the menu at File, and select Import/File.
 - Choose the appropriate file, choose Import by Reference, and choose Import.
 - When file appears on the screen, there will be small black handles around the figure. Pull down the menu at Special and select Anchored Frame.
 - Change the anchoring position to At Top of Column and choose Edit Frame.
 - Grab the handle at the top of the figure and pull the box down to the top edge of the figure. Grab the handle at the bottom of the figure and pull the box up to the bottom edge of the figure.
 - Place cursor in the bottom box of the table, type figure caption, and use the appropriate format tag.

- To center table on page vertically, place cursor in the table, pull down the menu at Table and choose Table Designer to adjust spacing above the table.
- To use 42pc Figure(Land):
 - Place cursor in the left box of the table, pull down the menu at Table, choose Row Format, change the maximum height limit to 55 picas, and choose Set.
 - With cursor in the left box of the table, pull down the menu at File choose Import/File, select the appropriate file, choose Import by Reference, and choose Import.
 - When file appears on the screen, small black handles will surround the figure. Grab the handle on the left side of the figure and pull the box to the left edge of the figure. Grab the handle on the right side of the figure and pull the box to the right an additional 0.5 picas. As the box size is being increased, the number of picas will be visible in the lower left corner.
 - Place cursor in the right box of the table and pull down the menu at Graphics choose Rotate, select the \angle , and choose Rotate.
 - Type figure caption and use appropriate format tag.
 - To adjust the widths of table columns to fit the figure and legend, pull down the menu at Table and choose Resize Columns. To center table on page vertically, place cursor in the table, pull down the menu at Table and choose Table Designer to adjust the spacing above the table.

Figures Integrated in Text. For figures integrated in the text, anchor a table on the line above where the table will be placed. From the Table pull down menu choose Insert Table.

- For figures that are within a single column of a two column document use the table format 20pc Figure.
- For figures that span the entire page of a two column document use the table format 42pc Figure.
- For figures that are placed landscape on the page, use the table format 42pc Figure(Land).
- For figures that span the entire page of a one column document use the table format 38pc Figure.

The stylistic elements of figures and captions are discussed in the section entitled "Figures."

Report Documentation Page Template

There are four templates for the Report Documentation Page (RDP). For NASA reports use rdp.fm. For research done in conjunction with the

Vehicle Technology Center of the U.S. Army Research Laboratory use rdp_vtc.fm. For research done in conjunction with Joint Research Program Office of the Aeroflightdynamics Directorate of the U.S. Army Aviation and Troop Command use rdp_jrp.fm. To use any of the RDP templates place the cursor in the first box of the form. Press Return or Enter to move from one box to the next. Boxes that contain information that rarely changes will be skipped. Should any information in these boxes need to be changed, place the cursor directly in the box and make the appropriate changes. In box 12a choose standard or nonstandard distribution. Click [here](#) for a table of suggested distribution for the Scientific and Technical Information report series. Pull down the menu under Format, choose Paragraphs and then Designer for tags to format text for the RDP template. To see a sample of a formatted RDP click [here](#).

Landscape Template

The landscape template land.fm has been created for text that appears on a page that is oriented landscape. To use this template, insert the cursor and begin typing the document.

Creating a PostScript File with FrameMaker to Submit Document for Printing

To submit a document for printing, at least four PostScript files must be created. The cover, the title page, the text, and the Report Documentation Page (RDP) must each be saved to separate PostScript files.

Creating PostScript File for Cover, Title Page, Report Documentation Page, and Text (text in one file)

- Open the cover file.
- Pull down the menu under File and choose Print.
- Select to print All pages.
- Deselect Last Sheet First.
- Select Print Only to File.
- Give the file a name with eight characters or less followed by a .ps extension.

Printing a PostScript file can be time consuming. To ensure that your PostScript file has completed printing, use a shell tool that has been set to the same directory to which the PostScript file was printed. At the prompt type head filename.ps (replace filename with the name of file) and press return. When the file has completed printing, information that begins with "%!PS Adobe 3.0" will be displayed.

After the PostScript file has been created, it is highly recommended that the PostScript file be viewed with an appropriate program (such as

Image Tool) to ensure that the file is correct. If the file needs to be corrected, open the FrameMaker file, make the appropriate changes, and start the process of printing the PostScript file again.

Creating PostScript File for Cover, Title Page, Report Documentation Page, and Text (text in more than one file)

To prepare a PostScript file for a document with more than one text file, a book file must be created. It is essential that the Report Documentation Page (RDP) fall on an even numbered page. If the last file before the RDP ends on an even numbered page, then a blank page must be added at the end of that file.

- Open the title page file.
- Pull down the menu under File and choose Generate Book.
- Choose New Multifile Book and then click on the Generate button.
- A book box will now appear.
- Close the title page file.
- In the book box, pull down the menu under File and choose Add File. Select the next file to appear in the paper (e.g., contents or text). Click on Add. Continue adding files until all files have been added and appear in the book box in the correct order. When all files have been added choose Done.
- Highlight the first file listed in the book box. Pull down the menu under File and choose Set Up File. For Starting Page Side select Next Available Side. For Page Numbering select Restart at 1 for first text file. For subsequent text files select Read From File. Choose Set. Repeat these steps for each file.
- In the book box, pull down the menu under File and choose Generate Update. Click on Update. If an error message appears, choose Skip All Remaining Messages and then choose Continue. However, if the error message is Unresolved Cross References or Missing Graphic Files, these errors must be corrected before continuing.
- Choose Save As and name the book file.
- In the book box, pull down the menu under File and click on Print.
- Deselect Last Sheet First.
- Select Print Only to File and give the file a name of eight characters or less followed by a .ps extension.
- Choose Print. If an error message appears, choose Skip All Remaining Messages and then choose Continue. However, if the error message is Unresolved Cross References or Missing Graphic Files, these errors must be corrected before continuing.
- Printing a PostScript file can be time consuming. To ensure that your PostScript file has completed printing, use a shell tool that has been

set to the same directory to which the PostScript file was printed. At the prompt type head filename.ps (replace filename with the name of file) and press return. When the file has completed printing, information that begins with "%!PS Adobe 3.0" will be displayed.

- After the PostScript file has been created, it is highly recommended that the PostScript file be viewed with an appropriate program (such as Image Tool) to ensure that the file is correct. If the file needs to be corrected, open the FrameMaker file, make the appropriate changes, and start the process of printing the PostScript file again.

Tags in Paragraph Catalog of Cover Template

***3-11-97 Last Update**

Tag at the top of paragraph catalog that indicates when template file was last updated.

***InsideCover-Body**

Tag to set up inside cover information.

***InsideCover-Bullet**

Tag to set up inside cover information.

***InsideCover-Title**

Tag to set up inside cover information.

***RestrictionNotice**

Tag to set up restriction notice, which is conditional text.

Author

Tag for authors' names.

CDCP-InfoLine

Tag for location and date of conference or workshop proceedings.

CR-InfoLine1

Tag for contract number.

CR-InfoLine2

Tag for stating for whom the contract report was prepared.

Date

Tag for report date.

ReportNo-CDTM

Tag for CDTM report number.

ReportNo-CDTP

Tag for CDTP report number.

ReportNo-CP

Tag for CP report number.

ReportNo-CR

Tag for CR report number.

ReportNo-TM

Tag for TM report number.

ReportNo-TP

Tag for TP report number.

Subtitle

Tag for report subtitle.

Title

Tag for report title.

VolumeNo

Tag for report volume number.

Tags in Paragraph Catalog of Title Page Template

*3-11-97 Last Update

Tag at the top of paragraph catalog that indicates when template file was last updated.

*AvailabilityInformation

Tag to set up availability information lines.

*NASAAddress

Tag to set up NASA Address.

*RestrictionNotice

Tag to set up restriction notice, which is conditional text.

AcknowledgmentsHeading

Tag for acknowledgment heading.

AcknowledgmentsText

Tag for acknowledgment text.

Author

Tag for authors' names.

AuthorAffiliation

Tag for authors' professional address.

CDCP-InfoLine

Tag for location and date of conference or workshop proceedings.

CR-InfoLine1

Tag for contract number.

CR-InfoLine2

Tag for stating for whom the contract report was prepared.

Date

Tag for report date.

ReportNo-CDTM

Tag for CDTM report number.

ReportNo-CDTP

Tag for CDTP report number.

ReportNo-CP

Tag for CP report number.

ReportNo-CR

Tag for CR report number.

ReportNo-TM

Tag for TM report number.

ReportNo-TP

Tag for TP report number.

Subtitle

Tag for report subtitle.

Title

Tag for report title.

VolumeNo

Tag for report volume number.

Tags in Paragraph Catalog of Table of Contents Template

*3-1-95 Last Update

Tag at the top of paragraph catalog that indicates when template file was last updated.

*PageNumber

Tag to set up page number format on the master page to automatically number the document.

1Head

Tag for first level heading.

1HeadFiguresTOC

Tag for each figure number and caption in list of figures.

1HeadTablesTOC

Tag for each table number and title in list of tables.

1HeadTOC

Tag for each first level heading in table of contents.

2HeadTOC

Tag for each second level heading in table of contents.

3HeadTOC

Tag for each third level heading in table of contents.

4HeadTOC

Tag for each fourth level heading in table of contents.

AppendixHeadTOC

Tag for each appendix heading in table of contents, which is followed by a 1HeadTOC entry for the appendix title.

Tags in Paragraph Catalog of One Column Template, Two Column Template, and 42pc Landscape Template

***11-21-96 Last Update**

Tag at the top of paragraph catalog that indicates when template file was last updated.

***Footnote**

Tag to set up the footnote format, which takes effect when footnote is added to document.

***PageNumber**

Tag to set up page number format on the master page to automatically number the document.

1Head

Tag for first level heading.

2Head

Tag for second level heading.

3Head3Headings

Tag for third level heading within a document that has three heading levels.

3Head4Headings

Tag for third level heading within a document that has four heading levels.

4Head

Tag for fourth level heading.

AbstractHead

Tag for the abstract heading.

AbstractText

Tag for the abstract text.

Body

Tag for any indented body paragraph.

BodyContinued

Tag for any nonindented body paragraph.

Bullet

Tag for any nonindented bulleted paragraph.

BulletIndented

Tag for any indented bulleted paragraph.

Eq.NoNumber

Tag for a displayed equation that will not be numbered.

Eq.Numbered

Tag for a displayed equation that will be numbered.

FigL#

Tag for a photograph L number placed with a photograph.

FigL#Integrated

Tag for a photograph L number placed with a photograph that is integrated within the text.

Figleg

Tag for figure legends of figures placed at the end of the document that are two or more lines of text.

FiglegCntr

Tag for figure legends of figures placed at the end of the document that are one line of text.

FiglegCntrIntegrated

Tag for figure legends of figures integrated within the text that are one line of text.

FiglegIntegrated

Tag for figure legends of figures integrated within the text that are two or more lines of text.

HTMLSplit

Tag to hold anchor of a table that will contain a figure placed at the end of the document.

NumberedParagraph-BodyIndent

Tag for a numbered paragraph that will be indented like a body paragraph.

NumberedParagraph-HangingIndent

Tag for a numbered paragraph that is slightly indented. Text will wrap around and hang to the right of the paragraph number.

NumberedParagraph-HangingNoIndent

Tag for a numbered paragraph that is not indented. Text will wrap around and hang to the right of the paragraph number.

ReferencesNoNumber

Tag for a reference list that is not numbered. Text will wrap around and hang to the right of the paragraph number.

Symboltable

Tag for a symbol table. The tab may need to be adjusted according to the width of largest symbol.

Tags in Paragraph Catalog of RDP Template

***3-11-97 Last Update**

Tag at the top of paragraph catalog that indicates when template file was last updated.

***Body**

Tag to setup text that labels boxes on form.

Centered-Fill-in-Blanks

Tag to fill out all blocks except blocks 15 and 16 on the RDP form.

Fill-in-Blanks

Tag to fill out blocks 15 and 16 only on the RDP form.

Preparing Reports With Microsoft Word v6.0.1 Templates for Macintosh

Four Microsoft Word templates are necessary to format a report: cover.dot.hqx or army_cvr.dot.hqx for the cover; title.dot.hqx, army_ttl.dot.hqx, cp_title.dot.hqx, or cr_title.dot.hqx for the title page; 1col.dot.hqx for text in one column or 2col.dot.hqx for text in two columns; and rdp.dot.hqx, rdp_vtc.dot.hqx, rdp_jrp.dot.hqx, or rdp_cr.dot.hqx for the Report Documentation Page.

These templates can be used two ways: (1) import text from another file, remove blank lines between text, extra spaces, and tabs and then apply the correct style to each section; or (2) prepare a manuscript in this template by first creating text with no blank lines and then applying the styles.

The following steps explain how to download and use the Microsoft Word templates. The templates are in BinHex format and Stuffit Expander 4.0.1 will be needed to uncompress and download the templates. If you need Stuffit Expander 4.0.1, please [click here](#) to download.

- Click the appropriate template, which will then automatically uncompress and download the template onto the desktop.
- Move the template into the Templates folder in the Microsoft Word folder on the hard drive.
- Select File New.
- The template will appear in the dialog box.
- Select the appropriate template and click OK.
- The template will appear in the Microsoft Word document.

Note that when Equation Editor 2.0 is used with Microsoft Word 6.0, problems with the file have historically occurred. Please use Microsoft 6.0.1 with Equation Editor 2.0 to avoid these problems. An upgrade may be ordered free of cost from Microsoft.

Cover and Title Page Templates

These instructions are for using the cover and title page templates for NASA reports. A cover page and a title page are required for all reports. The cover page contains the report number, title, authors, and date. The title page contains the report number, title, authors, date, and the authors' affiliations. The following are specific details to guide you through these templates.

The first page of the cover template consists of the cover, the second page consists of STI Program information, the third page consists of a blank page and the last page consists of the back cover page. All four pages must be printed. The title page template consists of two pages: the title page and the back title page (CASI and NTIS information). Both pages are needed in the report.

There are six templates available for report cover and title pages. The template `cover.dot.hqx` should be used for all covers except when an Army affiliation is designated, then the template `army_cvr.dot.hqx` should be used. The template `army_ttl.dot.hqx` should be used for the title page of reports with Army affiliations. The template `cp_title.dot.hqx` should be used for the title page of Conference Proceedings. The template `cr_title.dot.hqx` should be used for the title page of Contractor Reports. The template `title.dot.hqx` should be used for the title page of all other reports.

All styles have been set in this template. To make changes to the text, highlight the text only and start typing in the new text. (If text is highlighted, the delete key need not be used.)

To insert the date for the cover, select View and a pull-down menu will appear. Highlight Headers and Footers. Scroll down to the footer and highlight the date. Type in the new month and year. Choose View and Header and Footers to deselect the Headers and Footers option and resume page layout style.

If a template is not listed in the New dialog box, make sure the template is stored where the software can find it. The software looks for templates in the locations specified for User Templates and Workgroup Templates on the File Locations tab of the Options dialog box (Tools menu).

Restriction notices can be obtained from the `notices.dot.hqx` file. These notices when applicable, should be placed on both the cover and title pages. Insertion frames are provided on the cover and title page templates for the notices. Make sure the Show/Hide button is on so that the invisible frames are visible. Open the `notices.dot.hqx` file and highlight the notice. Select Edit then Copy. Click on the insertion frame on the cover or title page template, then select Edit and Paste.

All styles associated with these templates can be found on the ruler bar at the top of the screen. Click on the arrow next to the Styles box and a pull-down menu will appear. To activate a style, highlight the style and release the mouse. Click [here](#) to see the paragraph styles used with these templates.

The default styles are automatically set and should not be deleted, renamed, or removed from this template. Making changes to these styles can change the document format.

To see an example of a formatted cover click [here](#).

To see an example of a formatted title page click [here](#).

One Column and Two Column Templates

Use the one column template 1col.dot.hqx or two column template 2col.dot.hqx to format the text of your document. Click [to see the paragraph styles used with these templates](#). To see a sample of a formatted document choose one of the following:

- With tables and figures integrated within the text
- With tables and figures at the end of the report

Tables in Microsoft Word Documents

Please note that no tags have been created for Table Designer because each table is usually unique. The style of the elements of a table is discussed in the section entitled "Tables". Some basic formatting rules to remember when creating tables are

- Use a line thickness of 3/4 point for lines in and around tables.
- The title of a table cannot be wider than the table itself.
- No text within a table or its title is bold.
- For tables integrated in text, leave two lines blank between the text and the title of the table and the text and the bottom of the table.
- Tables placed at the end of a two column document are done in 10.5 point font with 12 point leading (spacing).
- Tables placed at the end of a one column document are done in 11 point font with 13 point leading (spacing).
- Tables integrated within the text of either a one or two column document are done in 9 point font with 11 point leading (spacing).

Figures in Microsoft Word Documents

To import an entire graphic file, choose Picture from the Insert menu. Microsoft Word can import EPS, PICT, or TIFF files. Figures can be integrated within the text or placed at the end of the document. The stylistic elements of figures and captions are discussed in the section enti-

tled "Figures." Figure captions are typed one blank line after the figure and are centered within the width of the figure.

Figures After Text. Figures grouped together and placed at the end of a document are centered vertically and horizontally on the page. When figures are placed at the end of the document, more than one figure can be placed on a page. However, there must be an equal amount of white space between the figures.

Figures Integrated in Text. Figures can be placed at the top, the bottom, or center of a page. For a two column document, figures can be sized to fit one column or can span both columns. When figures span two columns, insert a section break by choosing Insert from the menu at the top of the screen. Highlight Break and choose Continuous. Import a figure by choosing Picture from the Insert menu. Be sure to put a section break after the figure caption to ensure the text that follows will be in the two column format. Leave two blank lines between the text and the top of a figure and between the figure caption and the text.

Report Documentation Page Template

All styles have been set for this template. Simply type the appropriate information in the box. There are four RDP templates. The template rdp.dot.hqx should be used for all reports except Contractor Reports (CR) and reports with Army affiliations. The template rdp_cr.dot.hqx should be used for Contractor Reports. The template rdp_vtc.dot.hqx should be used for Army reports from the Vehicle Technology Center and the template rdp_jrp.dot.hqx should be used for Army reports from the Joint Research Program Office. To see a sample of a formatted RDP [click here](#).

Tab to or click in the appropriate boxes and type in the information requested. Certain boxes are not accessible and cannot be modified. Shaded boxes represent boxes for information entry. In box 12a choose standard or nonstandard distribution. [Click here](#) for a table of suggested distribution for the Scientific and Technical Information (STI) report series.

Creating a PostScript File With Microsoft Word

To create usable PostScript files for Microsoft Word 6.0.1 documents, follow these basic instructions.

Note. Use Apple LaserWriter 8 driver and Apple LaserWriter II NTX printer description file.

- Choose File and Print from the pull down menu.
- Select Pages All from window.

- Select Destination File.
- Choose Save
- Name document with the .ps extension (i.e., lastname.ps) File names should not include spaces and can be no longer than 8 characters before the .ps extension.
- Choose Format PostScript Job.
- Choose ASCII.
- Choose Level 2 only.
- Choose Font Inclusion All.
- Choose Save.

Styles for the Cover and Title Page Templates

Author

Style used for the author's name.

Affiliation

Style used for the author's affiliation.

Date

Style used for date.

RptNo

Style used for the report number.

Title

Style used for the report title.

Subtitle

Style used for the report subtitle.

Styles for the One Column Template and Two Column Template

1Head

Style for first level heading.

2Head

Style for second level heading.

3Head3Headings

Style for third level heading within a document that has three heading levels.

3Head4Headings

Style for third level heading within a document that has four heading levels.

4Head

Style for fourth level heading.

AbstractHead

Style for abstract heading.

AbstractText

Style for abstract text. This heading will center and italicize text of abstract.

Body

Style for indented body paragraph.

BodyContinued

Style for nonindented body paragraph.

Bullet

Style for nonindented bulleted paragraph

BulletIndented

Style for indented bulleted paragraph.

Eq.No.Number

Style for displayed equation that will not be numbered.

Eq.Numbered

Style for displayed equation that will be numbered. Press Tab after entering the equation to type in the equation number.

FigL#

Style for photograph L number placed with a photograph.

FigL#Integrated

Style for photograph L number placed with a photograph that is integrated within the text.

Figleg

Style for figure captions with two or more lines of text placed at the end of the document.

FiglegCntr

Style for figure captions with one line of text placed at the end of the document

FiglegCntrIntegrated

Style for figure captions with one line of text that are integrated within the text.

FiglegIntegrated

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No.Para-HngNoIndent

Style for a numbered paragraph that is not indented. Text will wrap around and hang to right of paragraph number.

NumPara-BodyIndented

Style for a numbered paragraph that will be indented exactly like a body paragraph.

NumPara-HangingIndent

Style for a numbered paragraph that is not indented. Text will wrap around and hang to the right of paragraph number.

ReferencesNoNumber

Style for a reference list that is not numbered. Text will wrap around and have a hanging indent to right of the margin.

ReferencesNumbered

Style for a reference list that is numbered. Text will wrap around and hang to the right of the reference number.

Symboltable

Style for a symbol list. The tab may need to be adjusted according to the width of largest symbol. (Please refer to Microsoft Word User's Guide to change tab settings.)

Preparing Reports With Microsoft Word 97 Templates for PC

Four Microsoft Word templates are necessary to format a report: cover.dot or army_cvr.dot for the cover; title.dot, army_ttl.dot, cp_title.dot, or cr_title.dot for the title page; 1col.dot for text in one column or 2col.dot for text in two columns; and rdp.dot, rdp_vtc.dot, rdp_jrp.dot, or rdp_cr.dot for the Report Documentation Page.

These templates can be used two ways: (1) import text from another file, remove blank lines between text, extra spaces, and tabs and then apply the correct style to each section; or (2) prepare a manuscript in this template by first creating text with no blank lines and then applying the styles.

The following steps explain how to download and use the Microsoft Word templates:

- Click the appropriate template, which will then automatically download.
- Copy the template into the Templates directory in the Microsoft Word program directory on the hard drive.
- Select File New.
- The template will appear in the dialog box.
- Select the appropriate template and click OK.
- The template will appear in the Microsoft Word document.

Note that when Equation Editor 2.0 is used with Microsoft Word 6.0 , problems with the file have historically occurred. Please use Microsoft 6.0.1 with Equation Editor 2.0 to avoid these problems. An upgrade may be ordered free of cost from Microsoft.

Cover and Title Page Templates

These instructions are for using the cover and title page templates for NASA reports. A cover page and a title page are required for all reports. The cover page contains the report number, title, authors, and date. The title page contains the report number, title, authors, date, and the authors' affiliations. The following are specific details to guide you through these templates.

The first page of the cover template consists of the cover, the second page consists of STI Program information, the third page consists of a blank page and the last page consists of the back cover page. All four pages must be printed. The title page template consists of two pages: the title page and the back title page (CASI and NTIS information). Both pages are needed in the report.

There are six templates available for report cover and title pages. The template cover.dot should be used for all covers except when an Army affiliation is designated, then the template army_cvr.dot should be used. The template army_ttl.dot should be used for the title page of reports with Army affiliations. The template cp_title.dot should be used for the title page of Conference Proceedings. The template cr_title.dot should be used for the title page of Contractor Reports. The template title.dot should be used for the title page of all other reports.

All styles have been set in this template. To make changes to the text, highlight the text only and start typing in the new text. (If text is highlighted, the delete key need not be used.)

To insert the date for the cover, select View and a pull-down menu will appear. Highlight Headers and Footers. Scroll down to the footer and highlight the date. Type in the new month and year. Choose View and Header and Footers to deselect the Headers and Footers option and resume page layout style.

If a template is not listed in the New dialog box, make sure the template is stored where the software can find it. The software looks for templates in the locations specified for User Templates and Workgroup Templates on the File Locations tab of the Options dialog box (Tools menu).

Restriction notices can be obtained from the notices.dot file. These notices when applicable, should be placed on both the cover and title pages. Insertion frames are provided on the cover and title page templates for the notices. Make sure the Show/Hide button is on so that the

invisible frames are visible. Open the notices.dot file and highlight the notice. Select Edit then Copy. Click on the insertion frame on the cover or title page template, then select Edit and Paste.

All styles associated with these templates can be found on the ruler bar at the top of the screen. Click on the arrow next to the Styles box and a pull-down menu will appear. To activate a style, highlight the style and release the mouse. Click here to see the paragraph styles used with these templates.

The default styles are automatically set and should not be deleted, renamed, or removed from this template. Making changes to these styles can change the document format.

To see an example of a formatted cover click here.

To see an example of a formatted title page click here.

One Column and Two Column Templates

Use the one column template 1col.dot or two column template 2col.dot to format the text of your document. Click to see the paragraph styles used with these templates. To see a sample of a formatted document choose one of the following:

- With tables and figures integrated within the text
- With tables and figures at the end of the report

Tables in Microsoft Word Documents

Please note that no tags have been created for Table Designer because each table is usually unique. The style of the elements of a table is discussed in the section entitled "Tables". Some basic formatting rules to remember when creating tables are

- Use a line thickness of 3/4 point for lines in and around tables.
- The title of a table cannot be wider than the table itself.
- No text within a table or its title is bold.
- For tables integrated in text, leave two lines blank between the text and the title of the table and the text and the bottom of the table.
- Tables placed at the end of a two column document are done in 10.5 point font with 12 point leading (spacing).
- Tables placed at the end of a one column document are done in 11 point font with 13 point leading (spacing).
- Tables integrated within the text of either a one or two column document are done in 9 point font with 11 point leading (spacing).

Figures in Microsoft Word Documents

To import an entire graphic file, choose Picture from the Insert menu. Microsoft Word can import EPS, PICT, or TIFF files. Figures can be integrated within the text or placed at the end of the document. The stylistic elements of figures and captions are discussed in the section entitled "Figures." Figure captions are typed one blank line after the figure and are centered within the width of the figure.

Figures After Text. Figures grouped together and placed at the end of a document are centered vertically and horizontally on the page. When figures are placed at the end of the document, more than one figure can be placed on a page. However, there must be an equal amount of white space between the figures.

Figures Integrated in Text. Figures can be placed at the top, the bottom, or center of a page. For a two column document, figures can be sized to fit one column or can span both columns. When figures span two columns, insert a section break by choosing Insert from the menu at the top of the screen. Highlight Break and choose Continuous. Import a figure by choosing Picture from the Insert menu. Be sure to put a section break after the figure caption to ensure the text that follows will be in the two column format. Leave two blank lines between the text and the top of a figure and between the figure caption and the text.

Report Documentation Page Template

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Creating a PostScript File With Microsoft Word 97

To create usable PostScript files for Microsoft Word 97 documents, follow these instructions for setting up Properties

- Select Settings then Printer.
- Select Apple LaserWriter II NTX or equivalent PostScript printer.
- Select File then choose Properties.
- Select the Details tab.
- At Print to the following port list, select File (creates a file on disk).
- At Print using the following driver, choose Apple Laserwriter II NTX or equivalent PostScript printer.
- Choose Apply.
- Select PostScript tab.
- At PostScript output format, select PostScript (optimize for portability-ADSC).
- Select Download header with each print job.
- Select the Advanced button.
- Select Use PostScript Level 1 features.
- Select No bitmap compression.
- Select ASCII data.
- Choose OK.
- Select the Fonts tab.
- Choose Send TrueType fonts to printer according to the font Substitution table.
- Select Send Fonts As button.
- At Send TrueType fonts as, select Outlines.
- At Threshold to switch, select 2.
- At Send PostScript fonts as, select In Native Format.
- Choose OK.

When ready to generate a PostScript file from Microsoft Word

- Choose File then Print from the menu.
- At Name select Apple LaserWriter II NTX or equivalent PostScript printer.
- Select Print to file.
- Choose a name for the document. The document will end with the .prn extension (i.e., lastname.prn). File names should not include spaces and can be no longer than 8 characters before the .prn extension.
- Choose OK.

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